

# Introduction to Environmental Economics (IKT3620)

## **MARKETS AND THE ENVIRONMENT**

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# MARKETS AND THE ENVIRONMENT

- MARKETS ARE POWERFUL
  - MOST USEFUL WAY TO ORGANIZE ECONOMIC ACTIVITY
  - THEY SEND SIGNALS; CHANNEL OF COMMUNICATION
- BUT MARKETS FAIL, TOO
- A WEDGE IS DRIVEN BETWEEN WHAT PEOPLE WANT AS INDIVIDUALS AND WHAT SOCIETY WANTS AS A COLLECTIVE

# THE POWER OF MARKETS

- A MARKET SUCCEEDS WHEN IT ALLOWS FOR THE EFFICIENT ALLOCATION OF RESOURCES
- EFFICIENCY GAINS EXIST IF IT IS POSSIBLE TO TRADE GOODS AND SERVICES SUCH THAT AT LEAST ONE PERSON IS BETTER OFF AND NO ONE ELSE IS WORSE OFF: .....?
- WHAT IS THE KEY TO A SUCCESSFUL MARKET?
  - WELL-DEFINED PROPERTY RIGHTS

# THE POWER OF MARKETS

- WELL-DEFINED PROPERTY RIGHTS SYSTEM IS BASED ON FOUR CHARACTERISTICS
  1. COMPREHENSIVE
  2. EXCLUSIVE
  3. TRANSFERABLE
  4. SECURE
- THESE FOUR CHARACTERISTICS REPRESENT AN IDEAL SCENARIO IN WHICH GAINS FROM TRADE ARE CREATED AND CAPTURED BY PEOPLE WHO TRADE
- COMPLETE SET OF MARKETS DOES NOT REFLECT REALITY
  - BUT THE NOTION OF COMPLETE MARKETS REPRESENT A THEORETICAL BENCHMARK

# MARKET FAILURE

- MARKET FAILURE EXISTS WHEN RESOURCES DO NOT ATTAIN THEIR HIGHEST SOCIAL VALUE
- FOR ENV. GOODS AND NATURAL RESOURCES,
  - MARKETS FAIL WHEN BENEFITS AND COSTS CANNOT BE ALLOCATED WITH PRECISION ACROSS AND WITHIN NATIONS AND GENERATIONS
- MARKET FAILURE OCCURS WHEN PROPERTY RIGHTS ARE NOT DEFINED CLEARLY
- ACCORDINGLY, MARKETS FAIL WHEN
  - WE CANNOT TRANSFER RIGHTS
  - WE CANNOT EXCLUDE OTHERS FROM USING THE GOOD
  - WE CANNOT PROTECT OUR RIGHTS TO USE THE GOOD

# MARKET FAILURE

- FREE EXCHANGE DOES NOT LEAD TO A SOCIALLY DESIRABLE OUTCOME
  - PRIVATE ACTIONS PROVIDE TOO MANY
    - **BADS:** POLLUTION
    - **TOO FEW GOODS:** OPEN SPACE
- THE MARKET SYSTEM IS INCOMPLETE
  - MISSING MARKETS
- FOR EXAMPLE, IF NO LEGAL AND INSTITUTIONAL BASIS EXISTS, PEOPLE WHO USE POLLUTED RIVER CANNOT RECEIVE COMPENSATION FROM UPSTREAM FARMERS WHOSE SEDIMENTS (TORTU), PESTICIDES (BOCEK ILACI), OR FERTILIZERS IMPOSE DOWNSTREAM COSTS IN THE FORM OF
  - CONTAMINATED DRINKING WATER
  - POOR FISHING
  - REDUCED RECREATIONAL OPPORTUNITIES
- FARMERS IMPOSE 'EXTERNAL COSTS' ON THESE OTHER USERS OF THE RIVER

# MARKET FAILURE

- MARKETS FAIL FOR SEVERAL REASONS
  - EXTERNALITIES
  - PUBLIC GOODS
  - OPEN-ACCESS COMMON PROPERTY
  - HIDDEN INFORMATION
- OTHER TYPES OF MARKET FAILURE
  - MARKET POWER (MONOPOLY)

# MARKET FAILURE

- MARKETS FAIL FOR SEVERAL REASONS
  - **EXTERNALITIES**
  - PUBLIC GOODS
  - OPEN-ACCESS COMMON PROPERTY
  - HIDDEN INFORMATION



# EXTERNALITIES

- AN EXTERNALITY OCCURS WHEN A PERSON'S WELL-BEING OR A FIRM'S PRODUCTION CAPABILITY IS AFFECTED BY THE ACTIONS OF OTHER CONSUMERS AND FIRMS RATHER THAN INDIRECTLY THROUGH CHANGES IN PRICES
- POLLUTION IS AN EXTERNALITY
  - WHEN A FIRM WHOSE PRODUCTION PROCESS GENERATES FUMES (DUMAN) THAT HARM ITS NEIGHBORS IS CREATING AN EXTERNALITY FOR WHICH THERE IS NO MARKET
    - IN CONTRAST, THE FIRM IS NOT CREATING AN EXTERNALITY WHEN IT HARMS A RIVAL BY SELLING EXTRA OUTPUT THAT LOWERS THE MARKET PRICE
  - WHEN A PERSON OR FIRM DOES NOT BEAR ALL THE COSTS OR RECEIVE ALL THE BENEFITS FOR HIS/HER OR ITS ACTIONS
- EXTERNALITIES CAN EITHER HELP OR HARM OTHERS
  - POSITIVE AND NEGATIVE EXTERNALITIES

# EXTERNALITIES

- AN EXTERNALITY ARISES WHEN THE MARKET PRICE OR COST OF PRODUCTION EXCLUDES ITS SOCIAL IMPACT, COST, OR BENEFIT
- MARKETS FAIL B/C THE MARKET IS INCOMPLETE → IT'S MISSING
  - NO EXCHANGE INSTITUTION EXISTS IN WHICH PEOPLE PAY OTHERS FOR EXTRA BENEFITS OR RECEIVE COMPENSATION FOR EXTRA COSTS.
    - DRIVING YOUR CAR
    - BUILDING A HOUSE IN AN OPEN SPACE